ABSTRACT

A process is disclosed for obtaining a C-polysaccharide cell wall antigen containing not more than about 10% protein from *Streptococcus pneumoniae* bacteria. The antigen thus obtained is conjugated to a spacer molecule, and the free end of the latter is then conjugated to a chromatographic affinity column. The column is then utilized to purify raw antibodies to *S. pneumonia* bacteria, thereby producing antigen-specific antibodies. A portion of such antibodies is conjugated to a labeling agent which displays a visible color change upon reaction of the antibodies with their antigenic binding partner and embedded in a first zone of an immunochromatographic assay device. Another portion of such antibodies is bound to the reaction zone of the device which has a view window. When a liquid sample, such as patient urine, cerebrospinal fluid or blood is applied to the first zone, the conjugate of antibodies and labeling agent and the sample move along a flow strip of bibulous material to the reaction zone wherein, if the sample contains *S. pneumoniae* or its cell wall antigen, a sandwich is formed among the labeled conjugate, the antigen and the bound antibodies and a color change is observed. The immunochromatographic assay thus performed is completed within about 15 minutes. This assay affords a basis for rapid and reliable diagnosis of various pathogenic states caused by *S. pneumoniae* including pneumonia, bronchitis, otitis media, sinusitis, meningitis, and secondary disease states that commonly occur when primary pneumonic infection caused by this bacterium persists undiminished over a time period of 3-5 days.